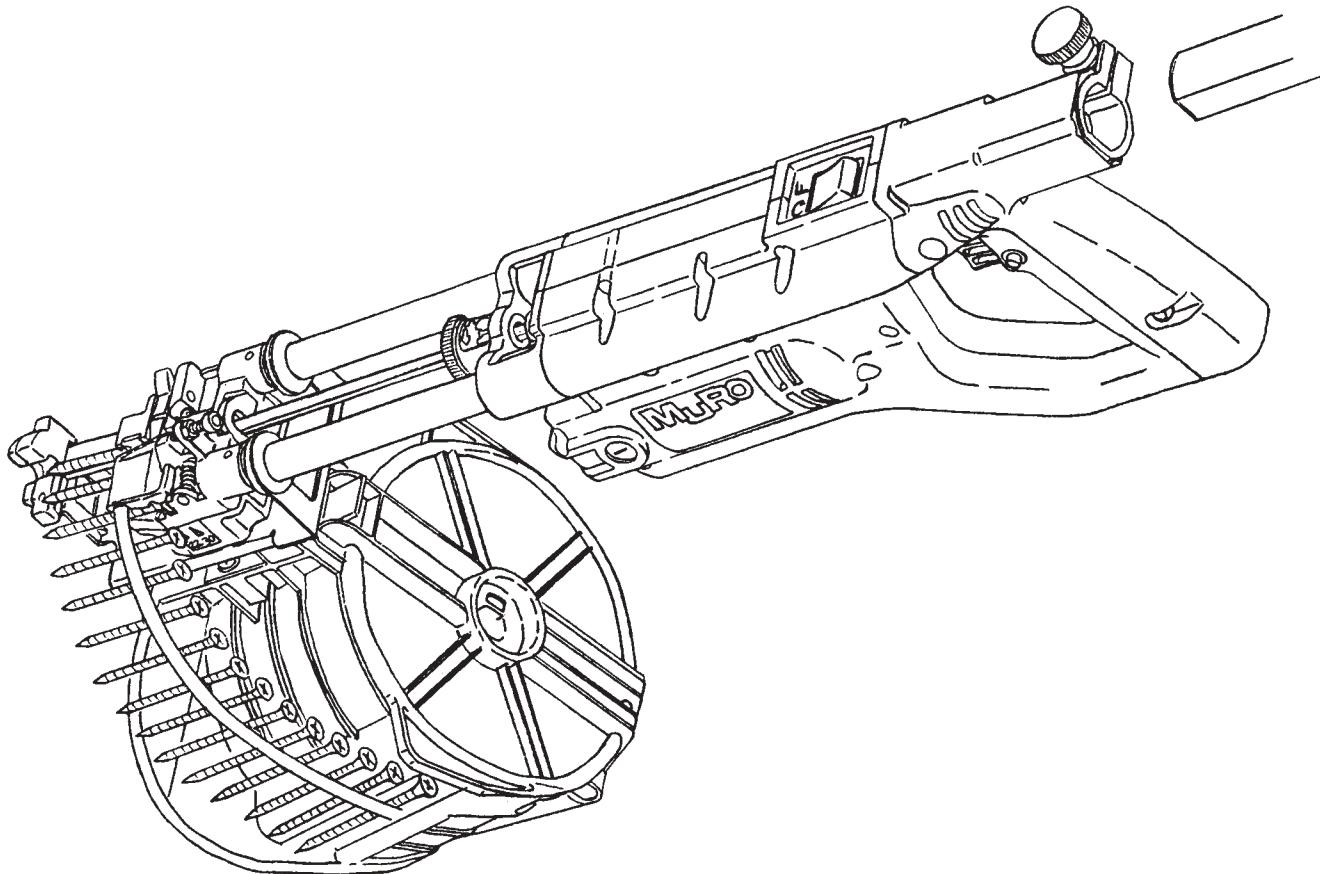


# MURO

## AUTO FEED SCREWDRIVING TOOL

### INSTRUCTION MANUAL FOR MODELS FDVL41 & FLVL41

Read through carefully and understand these instructions before use.



**MURO**

MURO NORTH AMERICA INC.  
Brampton, Ontario, Canada, L6T 3T4

# INSTRUCTION MANUAL

## Congratulations on the purchase of your Muro Auto Feed Screwdriving Tool.

The Muro FD/FLVL41 is an all-in-one, high performance tool, designed with the professional in mind. This MURO model drives collated screws (VISROPE) from 1" to 3" in length. Be sure to ask for Muro VISROPE screw coils to ensure trouble free operation of your Muro Auto Feed Screwdriving Tool.

### General Safety Rules

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**WARNING!** Read and understand all instructions. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

#### SAVE THESE INSTRUCTIONS

##### A. Work Area

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

##### B. Electrical Safety

1. **Double insulated tools are equipped with a polarized plug (one blade is wider than the other.) This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet.**

**Do not change the plug in any way.** Double insulation  eliminates the need for the three wire grounded power cord and grounded power supply system.

2. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
3. **Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
4. **Do not abuse the cord.** Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.

5. **When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W."** These cords are rated for outdoor use and reduce the risk of electric shock. Be sure to use an extension cord of sufficient size to prevent overheating and loss of power to the tool.

The table below shows the correct size extension cord to use.

Cord Length	Required Wire Size
25 feet	18 ga
50 feet	16 ga
75 feet	14 ga
100 feet	12 ga

##### C. Personal Safety

1. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
2. **Dress properly. Do not wear loose clothing or jewellery. Contain long hair.** Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewellery, or long hair can be caught in moving parts.
3. **Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools, that have the switch on invites accidents.

4. **Remove adjusting keys or wrenches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.

5. **Do not over reach.** Keep proper footing and balance at all times. Proper footing and balance enables better control of the tool in unexpected situations.
6. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

##### D. Tool Use and Care

1. **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
2. **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
3. **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
4. **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
5. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
6. **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.
7. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation.** If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.
8. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.

##### E. Service

1. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
2. **When servicing a tool, use only the identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.

#### SAVE THESE INSTRUCTIONS.

#### SYMBOLS AND DEFINITIONS

 Class II Construction (Double Insulation)

V - Volts

A - Amperes

Hz - Hertz

~ - Alternating Current

W - Watt

$n_0$  - No Load Speed

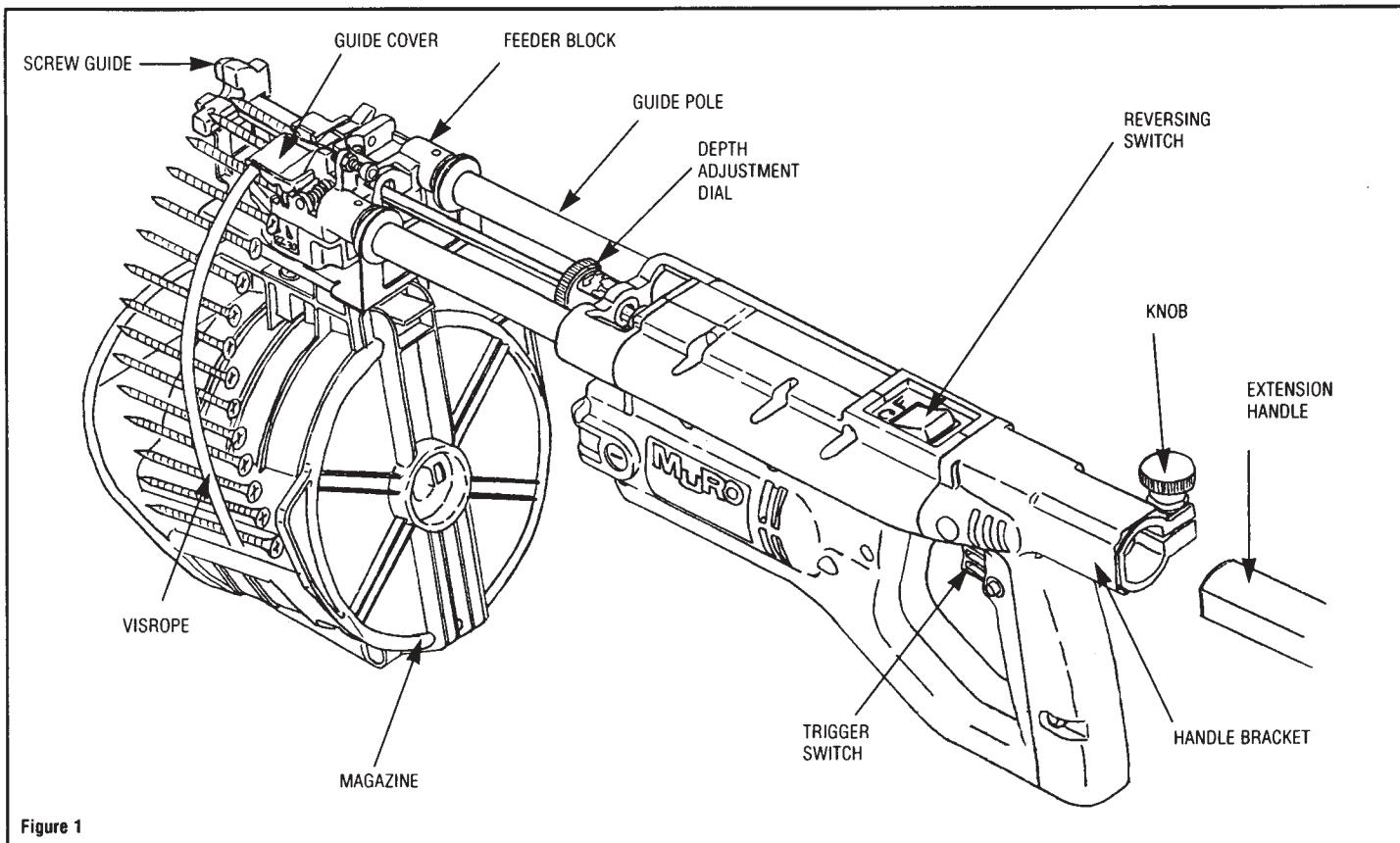


Figure 1

#### FUNCTIONAL DESCRIPTION

The MURO FD/FLVL41 Automatic Screw Driving tool has been designed to provide a convenient and efficient way to drive screws at a much faster rate than with conventional screw driving methods. With the tool properly assembled and loaded with VISROPE (the collated fasteners designed specifically for Muro tools) the tool can be used for non-stop driving of screws on a variety of applications.

#### TOOL SPECIFICATIONS

Model	FDVL41
	FLVL41
Speed FDVL41	2900rpm
Speed FLVL41	2400rpm
Voltage	115V AC
Current	5.0A
Cord Length	9 feet
Screw Range	1"-3"
Weight	8.8 lbs

#### STANDARD ACCESSORIES:

- 1 Double ended Phillips Bit
- 1 Double ended Square Bit
- 1 Allen key 3.0mm
- 1 Allen key 4.0mm
- 1 M4 Wrench

A holder for the allen keys is provided on the side of the magazine.

NOTE: Due to Muro's continuing program of research and development, the specifications herein are subject to change without notice.

Figure 1 shows the major components and controls of your tool. Familiarizing yourself with these major components will make it easy to understand the instructions which follow.

#### SWITCHES AND CONTROLS

1. Trigger Switch Operation - Holding the trigger switch fully depressed will cause the motor to start, releasing the switch will cause the motor to stop. This switch is also equipped with a locking mechanism which allows continuous motor operation. To use this feature, press the switch lock button with the trigger in the "on" position. Press the trigger switch again to release the switch lock. See figure 2.
2. Reversing Switch - The rocker switch on the top side of the tool allows selection of the direction of bit rotation. Screws may be driven and withdrawn easily from the work material. Always check the direction of bit rotation before operating the tool. Set the switch to "F" (forward) for driving screws and "R" (reverse) for removing screws. See figure 3.

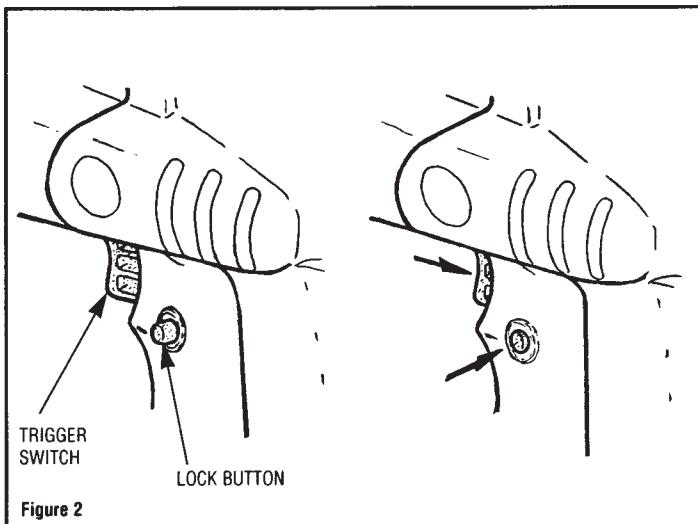


Figure 2

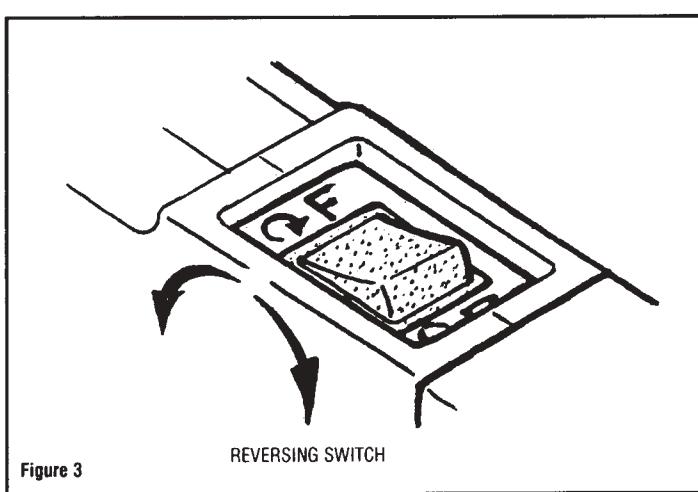


Figure 3

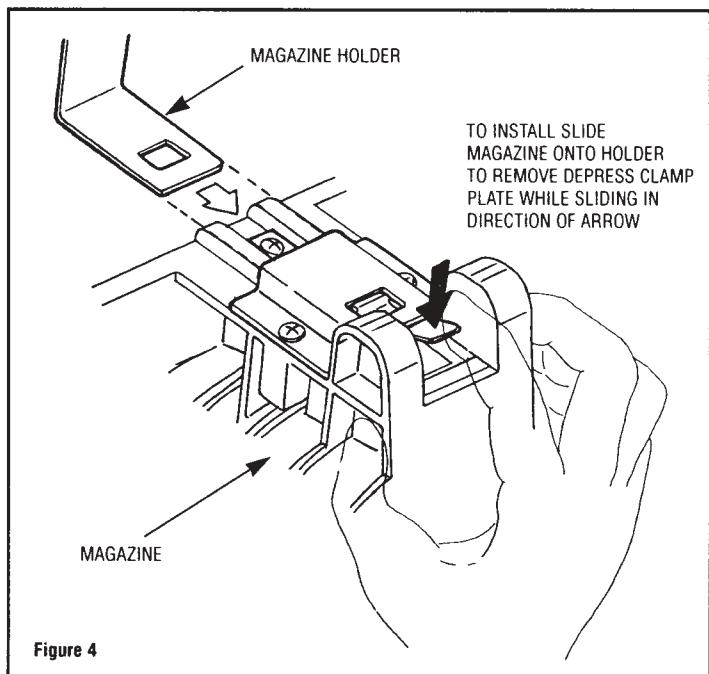


Figure 4

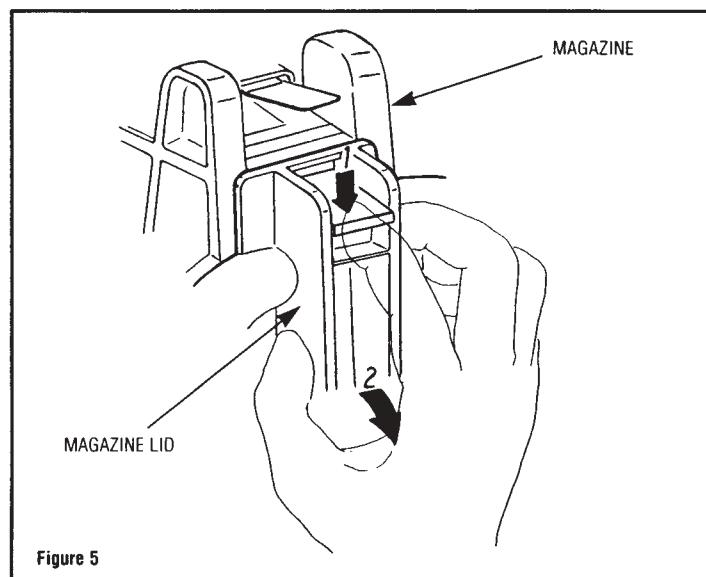


Figure 5

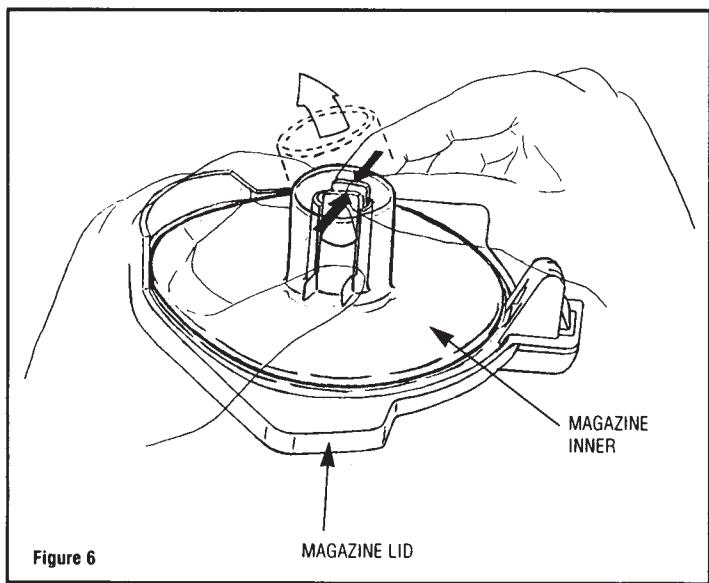


Figure 6

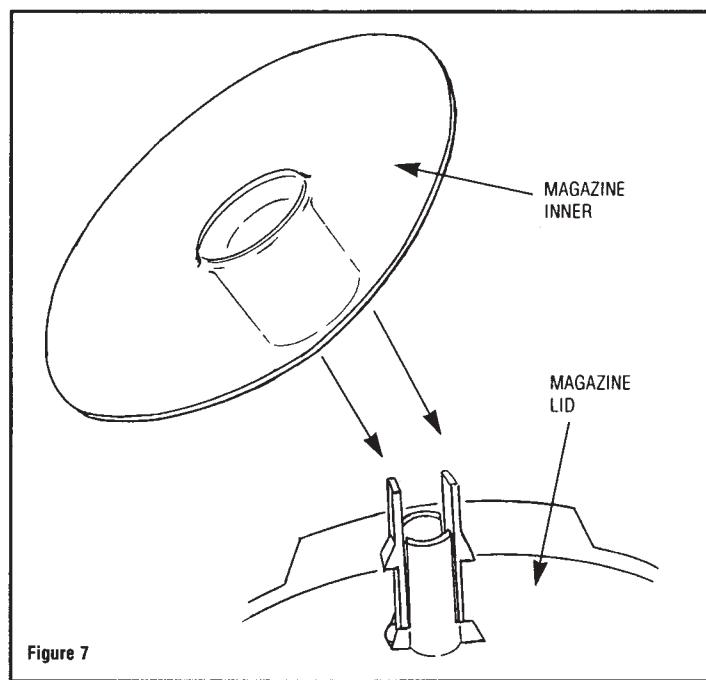


Figure 7

**CAUTION** - Never change the direction of bit rotation while the motor is running. To do so could damage the motor and void warranty. Always turn the tool off before changing the direction of bit rotation.

#### PREPARATION BEFORE USE

##### TOOL PREPARATION BEFORE USE:

**(a) Use An Appropriate Power Supply** - The power source should conform to the specifications stated on the nameplate. A direct current (DC) power supply can damage the unit and cause injury. Before connecting the FD/FLVL41 to a power source, ensure the trigger switch is in the "off" position. The motor will start automatically if the plug is connected to a socket with the switch in the "on" position. Pull the trigger switch to start the unit and release it to stop. When releasing the switch, always check that it returns to its former position.

**(b) Installing The Magazine** - Push the magazine onto the magazine holder until it clicks firmly into position. See figure 4. The magazine is inserted onto the tool from the motor end in the direction of the feeding mechanism. The magazine may be used as a stand while the tool is not in use. To remove the magazine, press the clamp plate on the side of the magazine and remove it from the magazine holder.

**(c) Magazine Inner Adjustment** - The magazine inner must be adjusted depending upon the length of fastener to be driven. To make this adjustment open the magazine cover by pulling the latch as in figure 5. To remove the inner magazine simply depress the two tabs together and lift as in figure 6. This figure shows the proper

placement of the magazine inner for screws longer than 1-1/2". For 1" to 1-1/2" screws the magazine inner must be inverted and re-installed as shown in figure 7.

**(d) Insertion And Removal Of The Bit** - Always use a no. 2 type bit of 184mm (7-1/4") in length. The bit type should be the same as the type of screws being driven. For example, if the screws have a phillips head recess, then a phillips bit must be used. If the screws have a square recess then a square bit must be used. All Muro bits are double ended. When one bit tip becomes worn the bit can be turned over to use the other end before replacing completely.

**Inserting the bit** - Depress the feeder block about 1" in the 'A' direction as shown in figure 8. Pass the bit through the feeder block center hole, through the depth adjuster dial and align with the hexagonal sleeve hole. Release feeder block. Depress the locking sleeve in the 'A' direction and slide the bit fully into the hole. Release the locking sleeve to hold the bit in place. Check that the bit is fully secured.

**Removing the bit** - Depress the locking sleeve in the 'A' direction and slide bit forward as far as possible and out of the locking sleeve. Then depress feeder block about 1" in the 'A' direction and slide the bit completely out of the tool.

NOTE: Do not attempt to remove the bit by force using pliers or other tools. Also, to prevent any chance of injury during bit replacement, ensure the tool's switch is off and the plug is disconnected from the power source prior to bit replacement.

**(e) Loading of VISROPE Screws Coils** - Open the magazine lid and ensure that the

magazine inner is adjusted as described previously corresponding to the fastener length to be driven. Place the VISROPE into the magazine with the screw heads facing upwards. Pull the forward end of the VISROPE coil out of the magazine outlet and close the magazine lid. Insert the VISROPE into the slot between the feeder block and guide cover (see fig. 9) as far as possible. Then activate the feeding mechanism by depressing the feeder block about 1" in the 'A' direction, as illustrated and release. The tool's feed mechanism will pull the first screw into place, which should look like figure 10.

**(f) Unloading Visrope** - To remove the VISROPE, shift the guide cover to the left and tilt it upwards (see fig. 11) Push the feeder block in the 'A' direction, press the grip finger downwards and pull the VISROPE to the left to remove the screws.

**(g) Screws of Different Lengths** - Screws ranging from 1" to 3" can be driven with your tool. The plastic tape location of collated Muro VISROPE is either 22mm or 30mm down from the head of the screw. The respective position depends upon the length of the screws being driven. Screws ranging from 1" to 1-3/4" are collated at 22mm, while the longer screws from 1-3/4" to 3" are collated at 30mm. The tool is designed so that the plastic will always be in the same position on the feeder block. When loading your VISROPE be sure to feed the screw head into the appropriate slot as in figure 12.

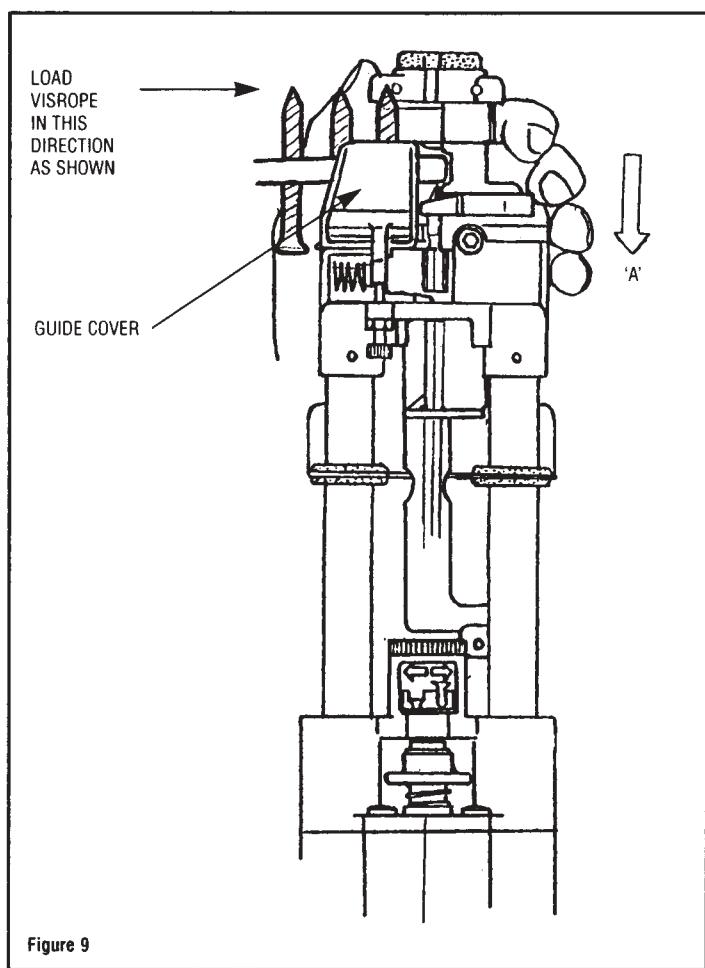
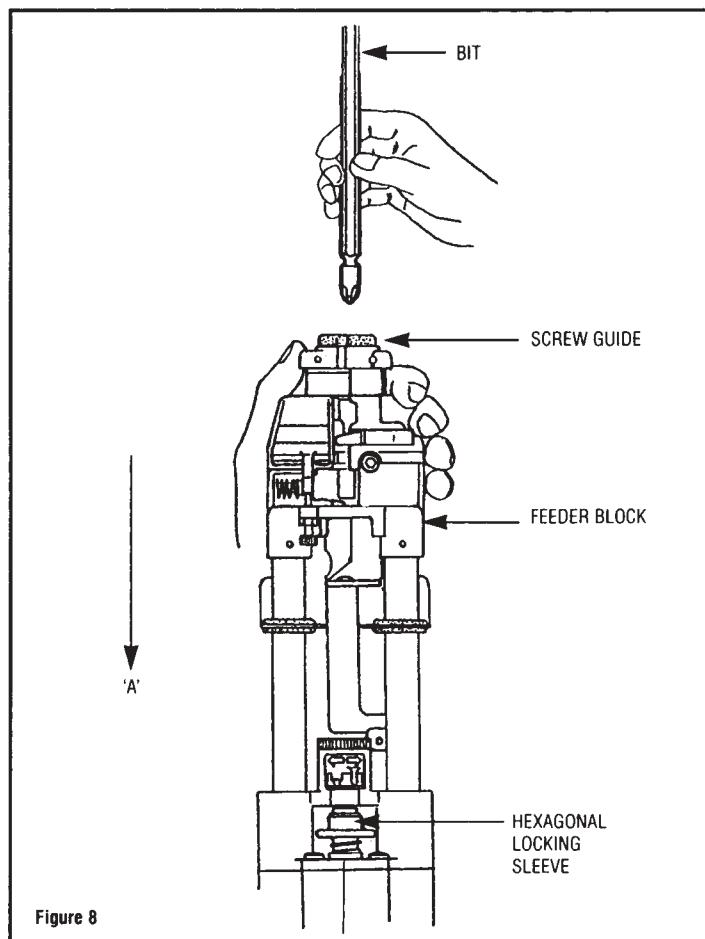
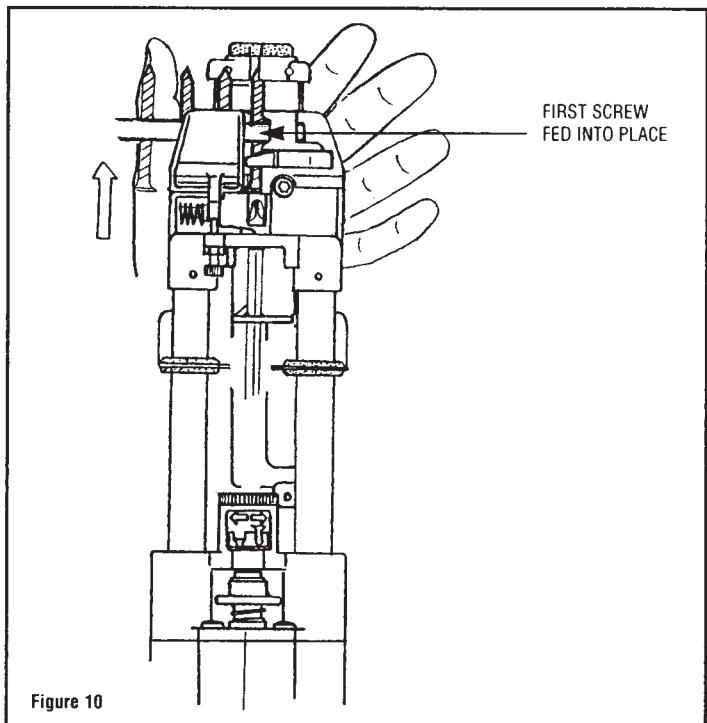
**(h) Stopper Block Adjustment** - Depending upon whether 22mm or 30mm collated screws are being driven, the stopper block needs to be adjusted accordingly. To adjust the stopper block, loosen the cap screw under the extension block on the right hand side of the tool. Slide the stopper block fully forward for 30mm collation or fully backward for 22mm collation. See figure 13. **CAUTION:** Removing the cap screw completely will allow the head of the tool to eject from the motor. Take care not to remove this screw fully when making the stopper block adjustment.

**(i) Screw Guide Adjustment** - the distance that the screw extends onto the screw guide should be kept at approximately 3/8". See figure 14. The screw guide is adjusted by loosening screw 'B' on the top side of the feeder block and by sliding the screw guide in and out to achieve the appropriate setting. The magazine will move with the size piece so that the screws may be fed easily into the feeder block. Be sure to retighten screw 'B' when the adjustment is complete.

**(j) Countersink Depth Adjustment** - By turning the depth adjusting dial left or right, the depth to which screws may be driven can be adjusted. See figure 15. Rotating the adjusting dial to the right reduces driving depth, rotating to the left increases driving depth.

**(k) Extension Handle (optional accessory) Installation** - The FD/FLVL41 tool is designed primarily to be used as a flooring and decking tool. For maximum operating comfort the tool may be fitted with the optional extension handle which allows the operator to stand up while driving screws. The length of this handle may be adjusted to suit the operator's height and most comfortable driving posture.

To attach the handle to the tool, place the handle into the handle bracket, as shown in figure 1, and secure it in position by tightening the knob.



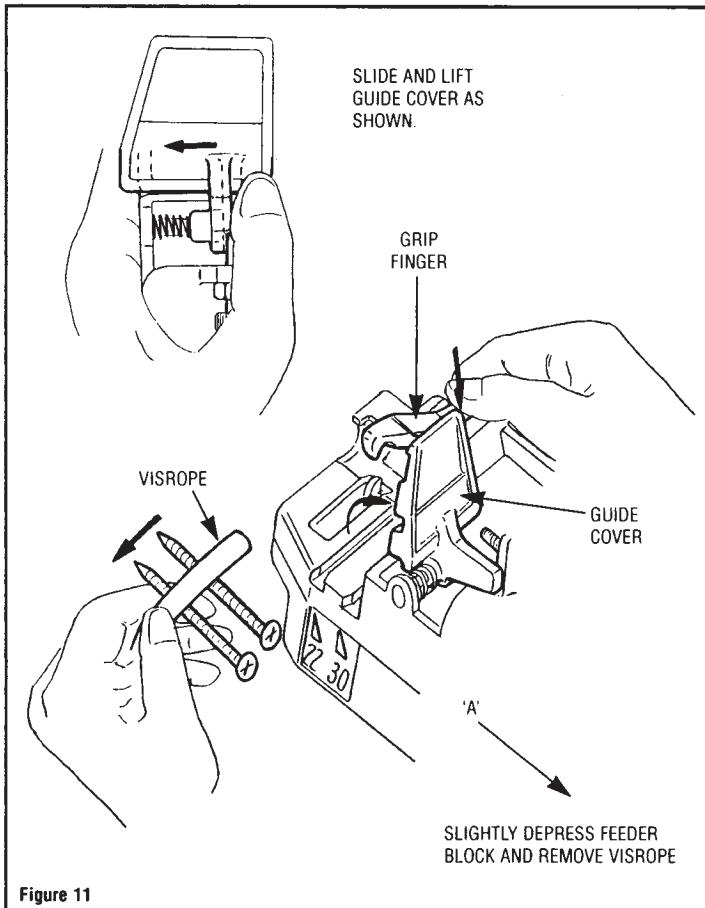


Figure 11

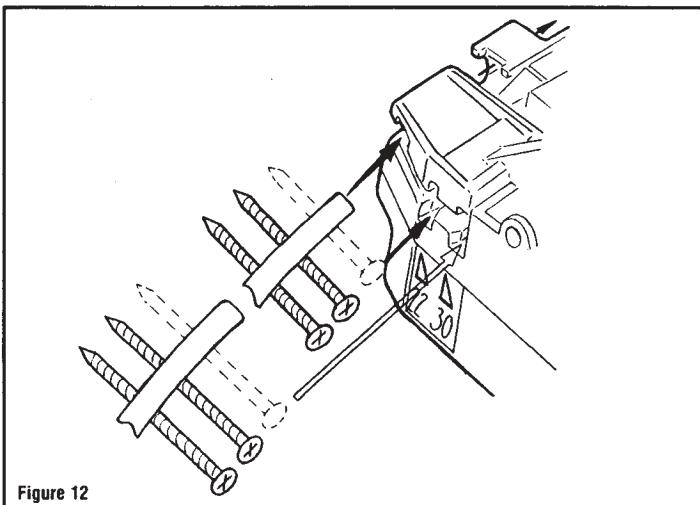


Figure 12

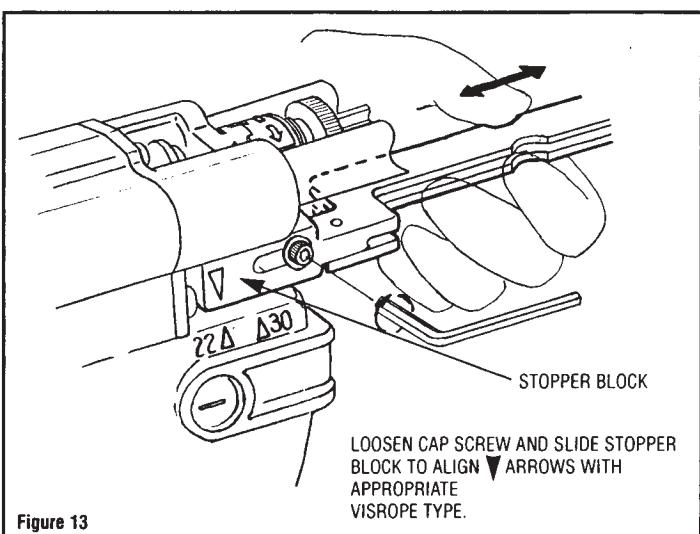


Figure 13

## OPERATING INSTRUCTIONS

### OPERATION OF THE FD/FLVL41

**(a) Driving Screws** - With the FD/FLVL41 loaded with the appropriate VISROPE, grasp the tool solidly and adopt a stable posture. The optional extension handle allows the tool to be gripped comfortably and firmly with both hands. Pressing the trigger switch starts the motor but does not cause the bit to rotate. Ensure the tool's screw guide is placed firmly onto the work surface. Failure to securely hold the screw guide against the work surface may result in the screw being incompletely driven. Pushing firmly forward on the tool will force the driver bit into the screw recess and the bit will start to rotate and begin to drive the screw. Maintain force on the tool until the screw is completely driven. The screw should be driven with a single action and once the screw is fully driven, allow the feeder block to return to its original position and the next screw will automatically feed forward.

If the feeding mechanism should jam, stop driving immediately. Remove the VISROPE as previously described, clear the jam, reload and restart driving.

**(b) Removing Screws** - Should a screw be driven incorrectly or in the wrong location, you can use the FD/FLVL41 tool to remove screws. To do this you must first switch off the tool motor, unload VISROPE, press reversing switch to reverse mode place the bit tip into the recess of the screw. Push down lightly on the tool to hold bit in the screw recess and press trigger to remove the screw.

**WARNING:** Whenever driving screws into surfaces which might contain hidden live electrical wires be sure to hold the tool only by its insulated grasping surface and not to touch any metal components of the tool which may become live. For horizontal applications figure 16 shows the proper way to hold the tool.

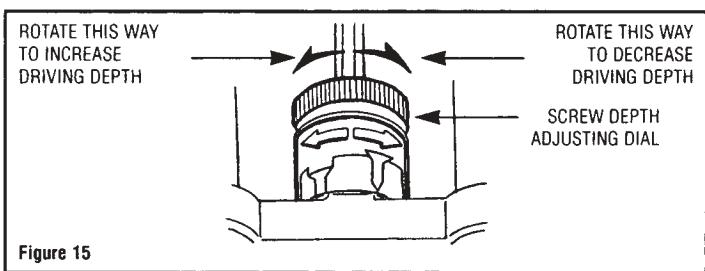


Figure 15

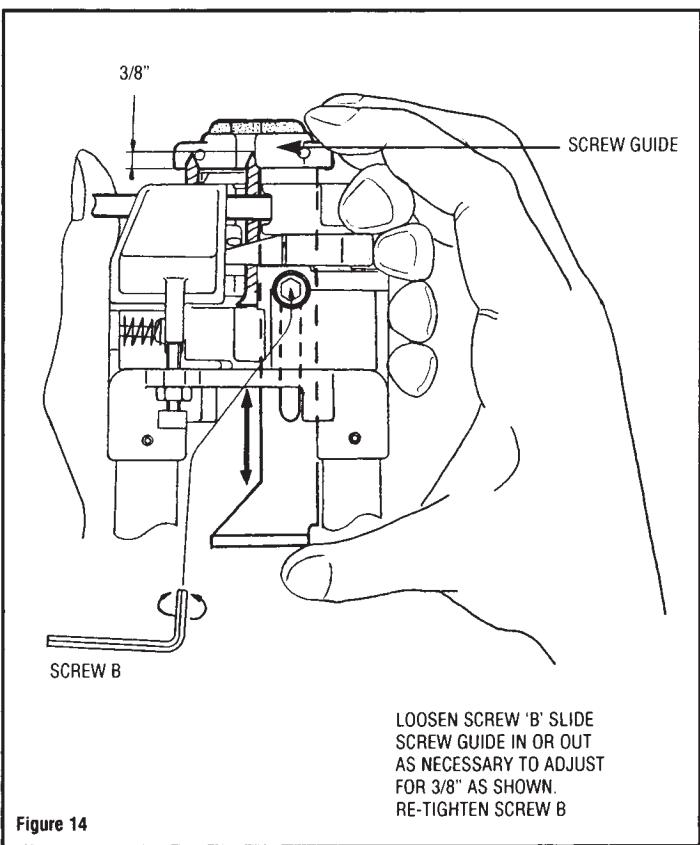
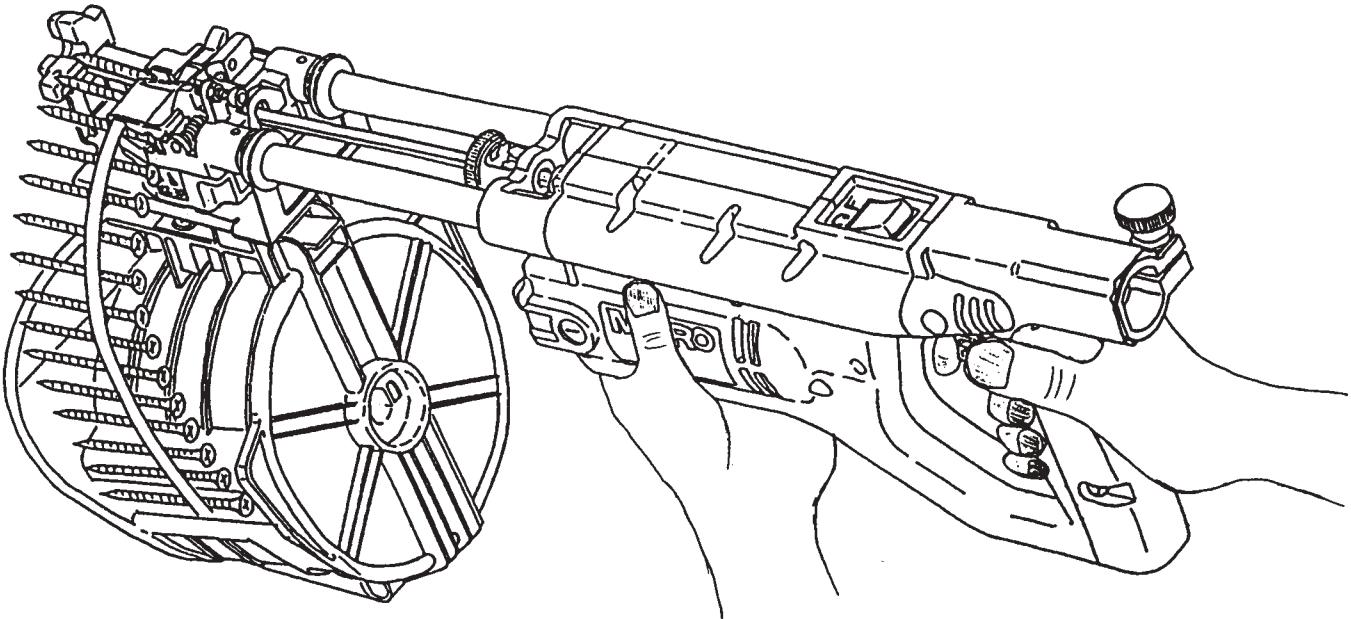


Figure 14



WARNING: HOLD TOOL AS SHOWN WHEN USING HORIZONTALLY

Figure 16

#### MAINTENANCE AND INSPECTION

To ensure trouble-free operation of your FD/FLVL41 tool, please note the following:

- (1) Inspect the driver bit and replace with a new one whenever excessive wear or damage is noticed.
- (2) To ensure that the grip finger, guide cover and guide poles slide smoothly, regularly apply 2 - 3 drops of a high grade lubricating oil.
- (3) The gap between the guide cover and the feeder block should be sufficient to allow free movement of the VISROPE. If this gap size is incorrect, it may result in feeding problems.

To adjust this gap, loosen the lock nut on the adjusting screw using the M4 nut wrench supplied. See figure 17. The width of the nut wrench's handle is .210" (5.4mm) and may be used as a guide for adjusting the gap by sliding it on edge between the guide cover and feeder block. Using the 3mm allen key, turn the adjusting screw to widen or narrow the gap. When the gap is set, tighten the lock nut while holding the adjusting screw in position with the allen key.

- (4) As vibration through use can cause screws to loosen, periodically tighten screws on the feeder block.
- (5) The motor uses carbon brushes. These should be inspected regularly and replaced as necessary. See figure 18. To replace carbon brushes, remove brush cap, then remove spring and brush assembly. Carbon brushes should always be replaced in pairs. Install new brushes and replace brush cap.
- (6) The tool should be maintained in good condition. For optimum performance, clean and adjust the unit regularly. Wood chips or other materials will affect the tool's performance and consequently its efficiency. Remove such materials from the feeder block before and after use.
- (7) Dust in the motor should be discharged every 50 hours of operation. A method of discharging the dust is to run the motor in a no-load situation and blow compressed air into the housing through the front air vents causing the dust and air to exhaust together through the rear air vents.
- (8) When tool service is required be sure to use only genuine replacement parts.

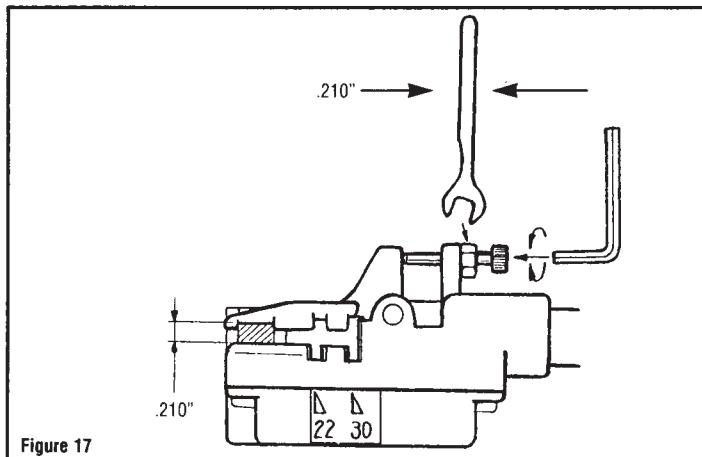


Figure 17

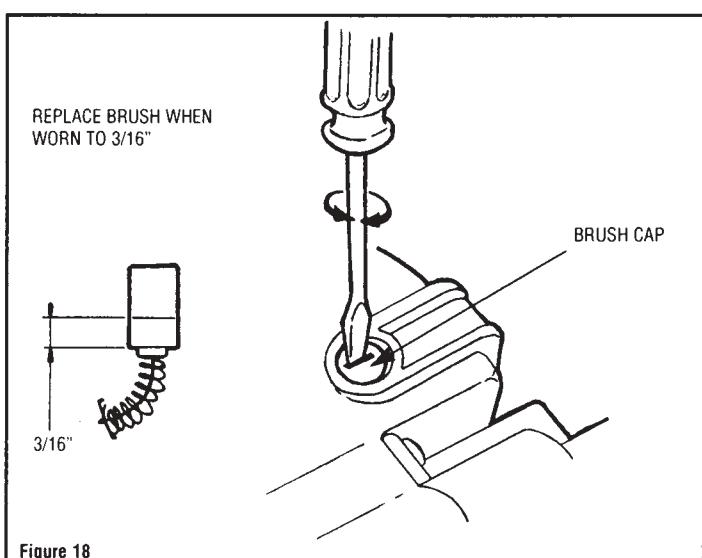


Figure 18

## **IMPORTANT**

Muro North America Inc. guarantees its product for 6 months after the date of purchase by the end-user against defective workmanship or material. This guarantee, of course, does not cover defects or damage due to misuse, abuse, or normal wear and tear. The product is not guaranteed if any screws other than VISROPE ( **MURO** collated screws) are used. In the event that service is necessary the product should be returned to the place of purchase.

Made in Canada

**MURO** is a registered trademark of MURO CORPORATION and MURO NORTH AMERICA INC.



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